

Publication No. 1

**KITCHEN ORGANIZATION
AND
ADMINISTRATION
BY
CHARLES S. PITCHER**

**READ AT THE MEETING
OF THE
AMERICAN ASSOCIATION OF OFFICIALS
OF
CHARITY AND CORRECTION**

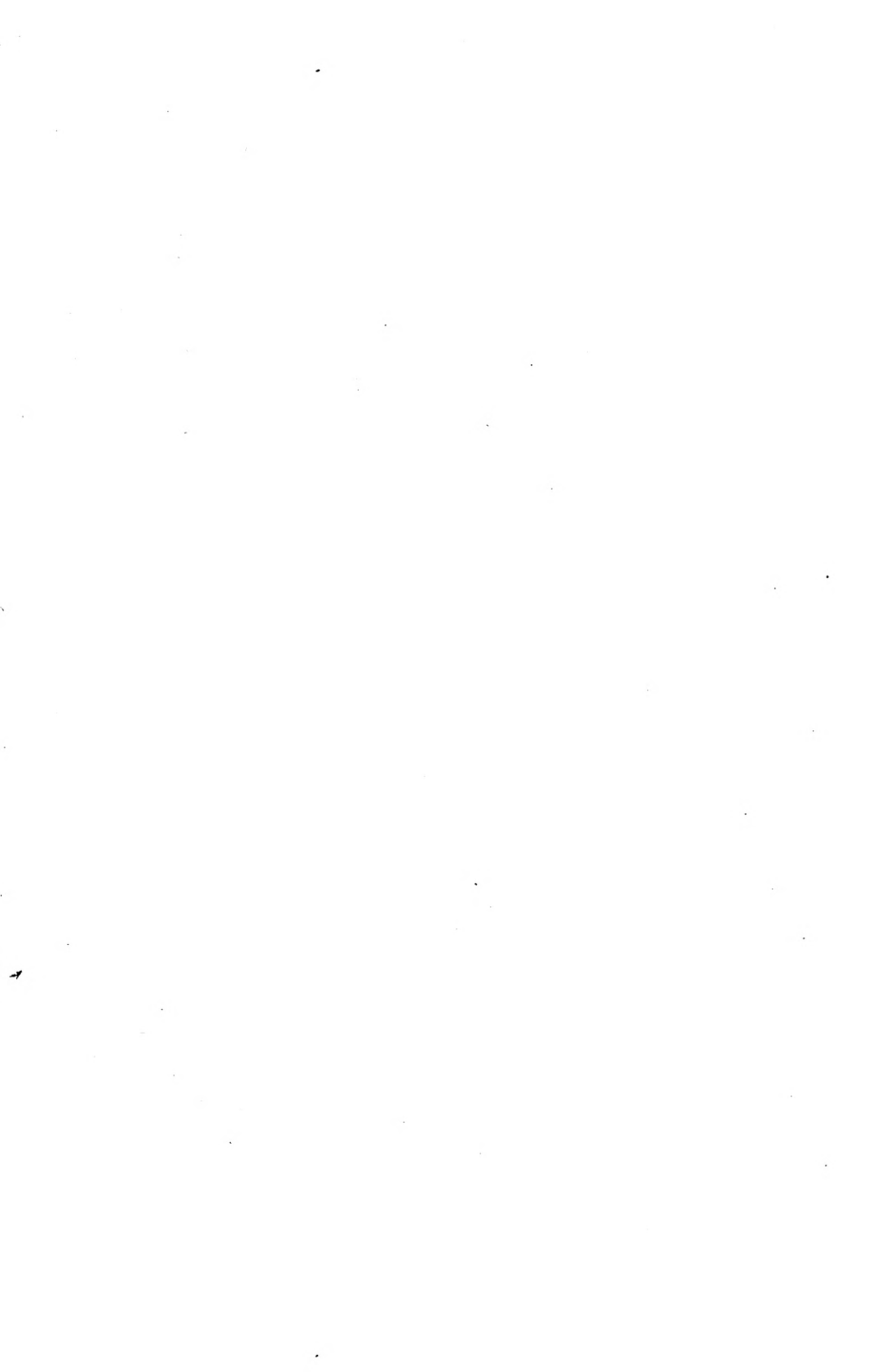
**MEMPHIS, TENN.,
May 7 and 8,
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KITCHEN ORGANIZATION AND ADMINISTRATION

Physiologists have determined how much food from a scientific standpoint a person requires. It is, however, true that there is a difference of opinion as to the quantity a person needs, as is shown by a comparison of the opinions of the following authorities:—(Quantities per man per day unless otherwise stated.)

		Available energy or fuel value
Inmates of prisons, insane hospitals:		
Male convicts at hard work	Dunlop	3380
Ordinary male prisoners	Dunlop	3020
Prisoners and inmates of houses of correction per person	Richards	2765
Inmates of Reformatories (Male)	Richards	3000
Unemployed male prisoners	Dunlop	2385
Inmates of almshouses per person	Richards	2435
Punitive diet, short duration	Dunlop	1805
Punitive diet, long duration	Dunlop	2385
The insane per person	Richards	3015
The insane per person	Atwater	2450

I will not attempt to discuss this matter from a physiological standpoint, as it has been the subject of careful experimentation for many years; what I will attempt to outline is how, after it has been determined what quantity of food a person needs, you can get this food on to his plate in the best possible manner and with the least amount of waste. It is needless to say that there are many ways that this can be done, good, bad and indifferent, but there must be one best way, which need not be the most complicated, as is illustrated in the answer given by a student in physics at one of the Western universities. The class in physics had just been studying the subject of hydraulic pumps and the instructor presented this question: "If you had a pail of water on the first floor of a building and wished to convey it to the third floor, what means would you use?" The different members of the class selected different kinds of pumps for the purpose of raising the water from the first floor to the third floor, but one student, a girl, who had recently entered the class for physics offered no opinion, but upon being asked by the instructor what she would do, replied, "I know but very little about physics, but if I wanted to get the water to the third floor I would take the pail and carry it up."

Considering the subject from this point of view, we will proceed to discuss some of the things which are necessary for good kitchen organization and administration:

1. Construction of kitchens
2. Equipment of kitchens and diningrooms
3. Employees
4. Methods of control for kitchens and diningrooms
 - “A” Ration allowance
 - “B” Standard Basic Dietary Ration Tables
 - “C” Graduated Ration Dippers
 - “D” Control of cooked meats
 - “E” Waste Accounting System

CONSTRUCTION OF KITCHENS

No. 1

In planning an institution it is very essential it should be so constructed that everything about the institution will co-ordinate and harmonize with one general idea, so that its purpose may be carried out. Probably the unrest of the public and the general criticism and dissatisfaction with correctional institutions are due primarily to the fact that our prisons and reformatories are so constructed that the very type of buildings defeats the purpose for which the institutions are maintained, namely, the reformation and rehabilitation of the inmates. Charitable institutions to carry out the purposes for which they are maintained are very much better constructed.

Narrowing the idea down to the original proposition, that of construction of kitchens, I would state that the kitchen should be so laid out that there will be no waste motion on the part of the employees caused by the kitchen being badly planned and the utensils poorly arranged. The matter of utensils will be discussed under the subject of "Equipment." Unless it is entirely unavoidable the kitchen should never be placed in the basement, if you wish the kitchen to look presentable. The kitchen should be located on the first floor, but as in some of the general hospitals, it may be located on the top floor. Where there is plenty of land to build on, there is no reason for this. The floors should be of tile with a tile base, rounded where it joins the tile floor, and in the corners rounded tile base should be used. The side walls should be constructed of enameled brick, for a distance of six or eight feet up from the floor. Tile may be used but it is liable to be broken much quicker than the enameled brick.

The floors and side walls of a kitchen are very important matters for the reason that unless you have good floors and side walls, it is very difficult to keep a kitchen clean. Concrete floors have been used considerably in kitchens, but they are very unsightly and difficult to keep clean, for the action of the grease, which it is impossible to keep from getting on the floors, has a tendency to destroy the bond of the cement.

To insure a proper ventilation, the kitchen should have a clerestory over it with monitor sashes hung from centers with automatic opening devices, so that the windows can be opened readily for ventilation. The kitchen should be so located that there is a good cross ventilation through the side windows, as kitchens in the summer are very warm stuffy places to work in. The kitchens and diningrooms, if possible, should be constructed in one block, with as many diningrooms as is necessary for the proper classification of inmates, connecting with the kitchen through servingrooms or pantries.

One type of building which is becoming popular in State Hospital construction is arranged in a group with the kitchen at one side of the group, with or without covered corridors leading from the wards to the diningrooms. The old type of ward diningroom is, I believe, becoming less popular, as it takes the ward attendants off the wards, disturbs the ward work, is not usually as well managed, is more wasteful of food and keeps the smell of the food in the wards.

The ward diningrooms, however, are advisable where there are disturbed and feeble cases, who are unable to walk to the general diningroom. One institution which I know of has a kitchen with a number of diningrooms connecting with it where the patients from several wards are classified in the different diningrooms according to their condition.

Adequate refrigerating accommodations should be provided in the kitchen. Where natural ice is not available, an artificial refrigerating plant can be very successfully maintained in the kitchen. There are several types of refrigeration plants now on the market which are almost automatic, only requiring the cook to

Figure 1 shows a kitchen in use in one of the State Institutions which is giving very good satisfaction with the exception that the serving pantries should be twice the size shown in the plan. There was a shortage of funds and, therefore, the space was somewhat restricted.

In the construction of dining rooms and serving rooms, if there are sufficient funds, I would advocate that tile floors and base be used as they are much more sanitary and will keep that "rattysmell" out, which is a very objectionable feature in institution dining rooms when a wood floor has been in use for a few years and the floor has been water soaked from constant scrubbing.

In connection with the construction of future kitchens I would suggest, for the consideration of those present, the proposition of providing for a freezing room in the basement of the kitchen or some other convenient place where the garbage, while awaiting removal, can be stored in such a temperature that decomposition will be arrested. This is being done in many of the large hotels, and as the garbage of an institution is worth at least \$1.00 or more per year per person for feeding swine, it would seem a good investment to keep the garbage from decomposing as the swine would be much more healthy and the results obtained much better if the garbage was delivered to the piggeries in a sweet, undecomposed condition. One benefit which would be derived from doing this, outside of the profit from raising swine, would be the elimination of disagreeable odors in the vicinity of the kitchen where garbage is stored. As all garbage fed to swine should be boiled at the piggery, there would be no injury to the swine from the fact that the garbage had been partly frozen in the freezing room. This plan could be successfully carried out where there is artificial refrigerating in the kitchen as the only thing necessary would be to construct a proper room with suitable refrigerating coils.

EQUIPMENT OF KITCHENS

No. 2

The equipment of a kitchen is one of the very important factors in kitchen organization and administration. Figure 1 shows the diagram of a kitchen and the location of the equipment. Figure 2 is a photograph of the equipment as you face the range.

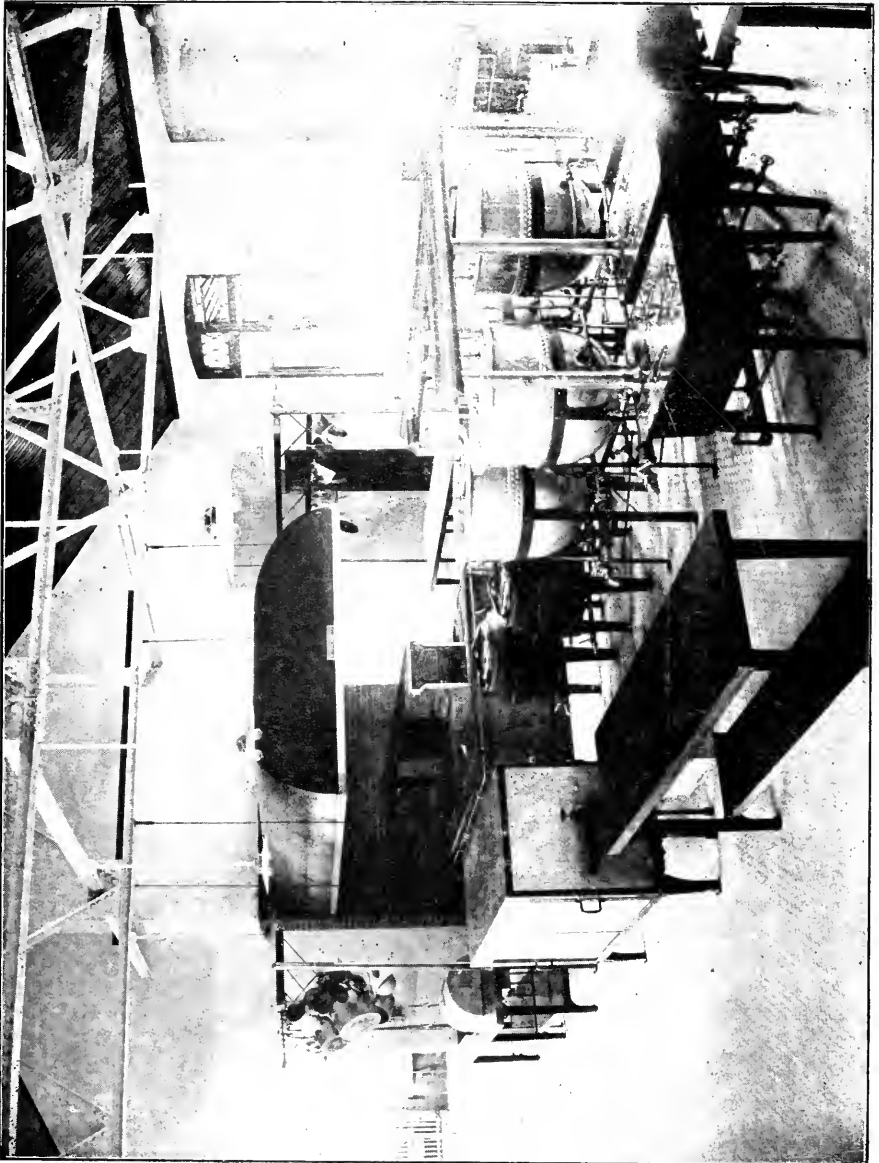


Figure 2.

Figure 3 is a photograph of the equipment as it appears looking toward the elevator and the serving rooms.

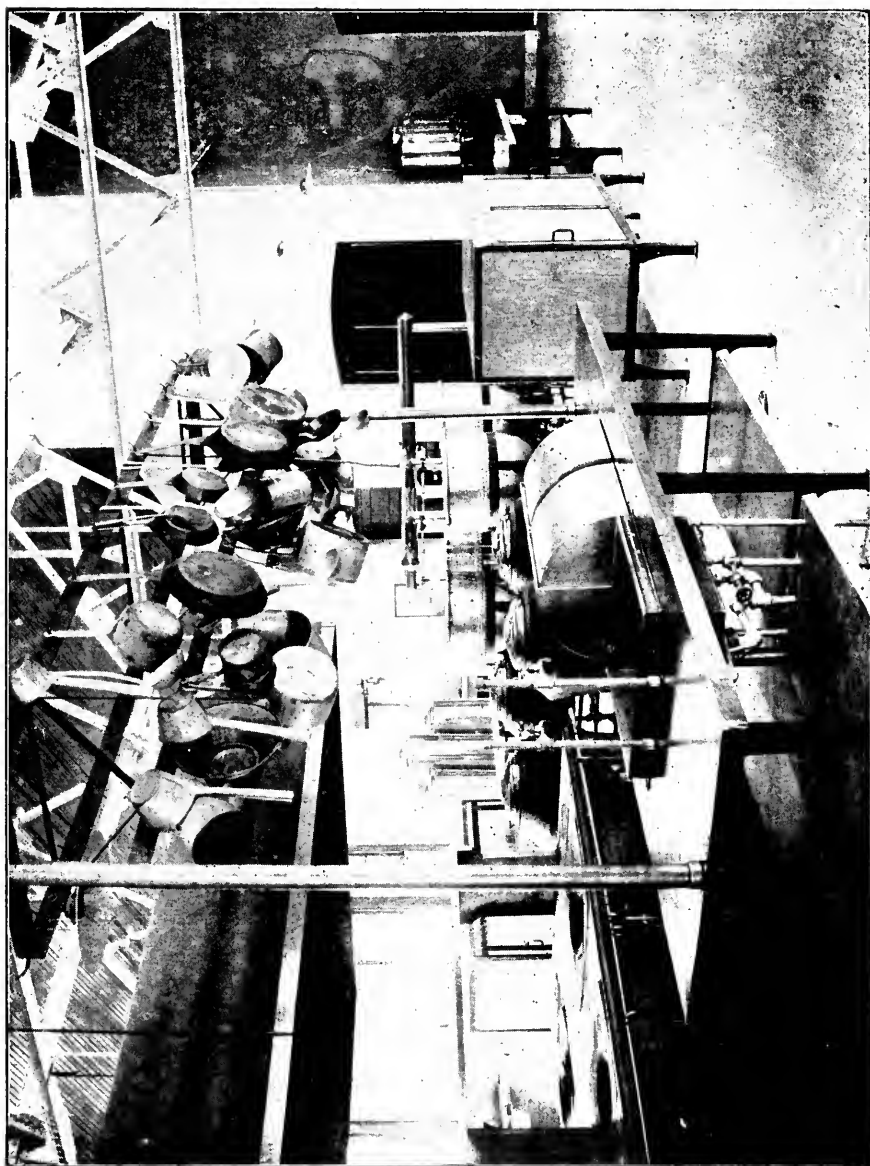


Figure 3.

The following equipment is shown in Figures One, Two and Three:

Range:--

One (1) wrought steel French range, to be 9' long, 7' wide, body to be made of No. 14 steel and bound around bottom with 3" x 1/4" steel binding, and to contain four fires and six ovens, that is two fires and three ovens on each side of range.

The ovens to be 21 1/2" wide, 28" deep, 16" high, with angle-iron braces at bottom so as to make it non-warping. The fire chambers to be equipped with shaking and dumping grate and lined with the best No. 1 fire brick. All oven doors to be provided with drop hinges so that the oven door will form a shelf in front, and to be bound with 2 1/2" steel binding. The top of range to be furnished with extra heavy steel castings. The one side of top to be extended 28" beyond the 9 foot length, the same to be supported with 2" angle frame, fastened to the body. All trimmings of range to be steel finished and fastened to the body by means of machine threaded bolts and rivets.

Coal Bin:--

One (1) wrought steel coal bin, 42" deep, 28" long, to be made of No. 14 steel, and to be bound around the bottom with 3" x 1/4" steel binding and to be connected to the body of the range on one side. Contractor to provide top, a door with heavy steel hinges and handle, and one chute door in front.

Plate Shelf:--

One (1) steel plate shelf 11' 4" x 20" wide, made of No. 16 steel and bound on each edge with 1" finished steel binding, the same to be supported on solid steel brackets, with steel finished facing, and bolted in the center of the range with machine thread bolts.

Hood:--

One (1) sheet steel hood 13' long, 8 1/2' wide, 30" high, to be made of No. 20 steel and bound around the bottom with 2 1/2" finished steel binding, both sides of hood and front to have mitred ends, provide all necessary hinges and expansion bolts to suspend the hood over the range.

Roasters:--

Four (4) seamless cast iron steam roasters, each to have a capacity of 35 gallons, and to have monel metal hinged covers, having brass hinges and handles, roasters to be provided with four extra heavy cast steel legs, draw off pipes and brass faucets.

Jacket Kettles:--

Four (4) aluminum jacket kettles, each of 60 gallon capacity, to be 28" in diameter, to be made of extra heavy aluminum, the jackets to be riveted with three rows of rivets and provided with steam inlet and outlet; also steam safety valve, the top to have a hinged cover, with heavy brass hinges and handle; also a 3" brass vapor pipe collar, tapped for water connection. All kettles to be provided with wrought iron stands and brass draw off faucets.

Vegetable Kettles:--

Four (4) seamless cast iron vegetable kettles, each of 35 gallon capacity, and each to be provided with monel metal covers with brass hinges and handles and 3" brass vapor collars tapped for water connections, all kettles to be provided with two galvanized perforated steaming baskets, extra heavy cast steel legs, draw off pipes and brass faucets.

Vapor Pipes:-

One (1) line of monel metal pipe to connect the four aluminum jacketed kettles and the four cast iron steam vegetable kettles, the rising pipes from each cover of the kettles to be 3" in diameter and of proper height above the covers of each kettle. The same to be connected into one main line of vapor pipe 5" in diameter, the main pipe to go through the floor and to be provided with a flanged sleeve, extend the pipe over to the ventilating flue. The pipe under the floor to be provided with an S trap. The same to be dripped with a $\frac{1}{2}$ " brass pipe to the adjoining sink.

Coffee Urns:-

One (1) set of Imperial coffee urns, consisting of two urns for coffee of 50 gallon capacity each and one water urn of 75 gallon capacity. All urns to be made of 40 oz. Monel metal planished on the outside and provided with necessary steam coils for heating same. The coffee urns to have Monel percolators and be connected on the side to the center water urn with brass nickel-plated pipe having a Jenkins valve. The water urn to be provided with safety and vacuum valves and glass gauge with measuring scale. All urns provided with brass draw off faucets and wrought iron stands.

Cook Tables:-

Two (2) cook tables each to be 10' long, 3' wide, the top to be 3-16" polished steel having a 2" flange turned down on all edges. The top of one table to be cut for bain marie pan and carving table. The tables to be supported on extra heavy ornamental cast steel legs and to have a solid galvanized steel shelf built 10" above the top of the floor. Each table provided with one drawer with lock for working tools.

Sauce Pan Racks:-

Two (2) sauce pan racks, each to be 9' long, 2' wide, having triple bars. The bars to be made of $2\frac{1}{2}$ " x $\frac{1}{4}$ " steel, having hooks on each side of bars 8" apart. The rack to be supported by $2\frac{1}{2}$ " pipe column, to extend from the floor through the top of the cooks' table and provide the same with necessary flange on the bottom and brace underneath top of cooks' table.

Carving Table and Bain Marie Pan:-

One (1) carving table and bain marie pan, to be 5' long, 25" wide, 9" deep made of heavy planished cold rolled copper tinned on the inside and provided with copper tinned steam coils for heating same, with copper tinned perforated bottom. The pan to have a heavy copper tinned flange 2" from the top and to contain two porcelain enameled meat platters with heavy tin planished revolving covers, the bain marie opening to have a wired edge, provide waste outlet 1" in diameter.

Hot Tables and Warmers:-

Two (2) hot tables and warmers, each to be 6' long, 30" wide, and 4' 6" high, including the height of the stand, the body to be made of No. 20 galvanized iron with sliding doors on each side of warmer, the top of each warmer to be made of No. 14 galvanized steel reinforced with angle braces. Warmers to contain two shelves, and each shelf is to be heated with four rows of $\frac{3}{4}$ " steam coils connected for one circulation. All warmers to be set up on a wrought iron stand 10" high.

Steel Tables:—

Three (3) steel tables—each to be 7' long, 2' wide, the tops of each to be made of 3-16" polished steel with a 2" flange turned down on all edges. Each table provided with heavy steel ornamental legs and one galvanized drawer with lock for working tools.

Coffee Urns:—

One (1) set of coffee urns for employees' dining room, the set to consist of two coffee urns, 10 gallon capacity each, and one water urn 20 gallon capacity. All urns to be made of Monel metal. The coffee urns to have porcelain enameled cylinders with double glass gauges for water and coffee and to be connected on each side of water urn with seamless brass nickel-plated tubing provided with Jenkins Valve. All urns provided with copper finned steam coils for heating same. The water urn provided with safety and vacuum valve and glass gauge with measuring scale.

Urn Stand and Warmer:—

One (1) urn stand and warmer to be 5' long, 20" wide, body to be made of Russia iron having two shelves, heated with steam coils. The top of warmer to be made of heavy planished copper with heavy cast legs 10" high.

Drainer:—

One (1) urn drainer 5' long, 6" wide, made of heavy planished copper tinned inside; with perforated drain. The drainer to be nickel-plated and fastened to the body of the warmer with heavy steel brackets and provided with a waste outlet, having nickel-plated faucet.

Plate Warmers:—

Three (3) plate warmers, two to be 6' long and one to be 4' long. All warmers to be 2' deep, 6' high, made of extra heavy Russia iron, and to contain four shelves, each shelf to be heated with four rows of $\frac{3}{4}$ " steam coils and to have sliding doors in front with ball-bearing wheels, and to be set up on an iron stand 10" high.

Coal Wagon:—

One (1) steel coal wagon to be 28" long, 22" wide, 20" deep, to be made of No. 14 steel, bound around the top and bottom with $1\frac{1}{2}$ " steel binding and provided with heavy steel castor wheels.

Food Trucks:—

Five (5) food trucks—each to be $4\frac{1}{2}$ ' long, $2\frac{1}{2}$ ' wide, $4\frac{1}{2}$ ' high, the frame to be built of galvanized iron pipe, the uprights to be $1\frac{3}{4}$ " in diameter, the braces to be $1\frac{3}{4}$ " in diameter. Truck to have two shelves, each to be full length and width, built solid of No. 18 galvanized iron, supported in the centers to the side braces, the lower shelf to have 1" edge turned up all around, the upper shelf to be set down 3" from the top. All trucks provided with two swivel wheels, front and back, and wheels on sides, all to have heavy rubber tires, each truck provided with galvanized bar at end.

The equipment which is described in the foregoing is capable of cooking the meals for 600 persons, but by increasing the kitchen employees a population of 800 could be provided for although it would make it very inconvenient for the kitchen force.

It will be noticed from Figure 1 that all of the equipment with the exception of the tea and coffee urns and the sinks are located away from the walls of

the kitchen making it much easier to keep the kitchen clean, more convenient for the cooks and makes the kitchen more sightly as the walls are not cluttered up. Floor drains, with bell traps and waste pipes connected to the sewer, are placed underneath the aluminum kettles, roasters and vegetable kettles. This is of much assistance in scrubbing the kitchen and in emptying water from the kettles when they are being cleaned. The jacketed kettles are of aluminum with aluminum covers. The cover of the vegetable steamers and steam roasters are of monel metal. The tea and coffee urns are also of monel metal, while all the sauce pans used in the kitchens are of aluminum.

I would particularly recommend the use of aluminum kettles, sauce pans, etc., as no re-tinning is necessary. Aluminum kettles cost about fifty per cent. as much as copper block tin lined kettles, cook more rapidly and will last as long without any outlay for re-tinning. Very frequently copper block tin lined kettles, these with a block tin lining $\frac{1}{8}$ " in thickness, have to be re-lined at a cost of approximately \$75.00, while sixty gallon aluminum kettles can be purchased for approximately \$140.00, a material saving in the equipment of a kitchen as well as a permanent improvement over the copper block tin lined kettles. Copper tin lined kettles and sauce pans have to be re-tinned nearly every year, which is a source of considerable expense; furthermore when the tin lining is wearing off, the copper is considered to have a bad effect on the food coming in contact with it.

Monel metal tea and coffee urns are proving very satisfactory. They are more expensive than the tin lined tea and coffee urns, but as they require no re-tinning they are much more economical in the end.

Monel metal covers for iron roasters and vegetable kettles are preferable to galvanized iron or copper covers as they last longer and as, in the case of copper covers, no re-tinning is necessary.

I would recommend the use of steel tables in the kitchen as they are very easy to keep clean and will last much longer than wooden ones.

Plate warmers for the kitchens and dining rooms are a very necessary part of the equipment, for even if the meal is well cooked, the food is rendered unpalatable and is unsatisfactory if served on cold plates.

In connection with the equipment of a dining room, I would suggest the use of round instead of long tables. A table 6 feet long and $2\frac{1}{2}$ feet wide will accommodate 6 persons and a table 10 feet long and $2\frac{1}{2}$ feet wide will accommodate 10 persons. A round table 4' 6" in diameter will accommodate 5 persons, giving them plenty of room and if they sit as close together as at a long table, 6 could be accommodated. It is a psychological fact that upon going into a dining room where there are tables of different kinds, people will naturally go to the round tables, as they seem more homelike than either square or long ones. The entire atmosphere of an institution dining room and the attitude of the persons eating in the dining rooms can be changed through the use of round tables.

In dining rooms of correctional institutions I would recommend the use of long tables and benches only for inmates in the lower grades or those undergoing discipline. For all other inmates I would recommend the throwing out of the long tables and benches and the substitution of round tables and light bent wood chairs.

Light bent wood chairs cannot be used as effective weapons by disturbed or vicious inmates and are no more dangerous than the dishes on the table. In case inmates become refractory it is much easier to restrain them in a dining room equipped with round tables than where there are rows of long tables. It is also much easier to serve food at round tables.

EMPLOYEES

NO. 3

The fact that persons are employed in a kitchen or dining room is no guarantee that they are good cooks or good waiters. It seems to be the style to "damn the cook and the waiters" for almost anything which happens in connection with the operation of kitchens and dining rooms. No doubt some of this is merited, but, on the other hand, there are as many conscientious people following up this line of work as are following other lines, and the trouble, to some extent, is due to the fact that there is no adequate system to follow, so the employees who really wish to perform their duties well can gain sufficient knowledge to carry on their work efficiently, and not fail through lack of information and training rather than intention. Some think that kitchens and dining rooms are necessary evils, but this is a pessimistic view to take of the matter. When you are inspecting a kitchen or dining room, and you feel that the work is well done, do not be afraid to compliment the cooks or the dining room employees for fear that the next time you visit their place, you may find it necessary to reprimand them. Remember that they have trouble the same as every one else, and will appreciate praise as heartily as you would if complimented by your superiors. If, every time you make an inspection, you make criticisms and never express any appreciation of the good work which the employee may at sometime have performed—in other words, if the only part of the doughnut you ever see is the hole in the center, your criticisms in time will have the same effect as a long string of "don'ts" have with children, and the employees will grow to feel that you are not satisfied with anything they do, and have no appreciation whatever of their efforts to render good service. A combination of praise and criticism is much more effective than criticism alone.

Undue haste in filling vacancies is often the reason why you have inefficient employees for it is much better to have a vacancy than to appoint an inefficient person to a position in an institution.

Dining room employees should be as well paid as ward attendants, while the kitchen help should receive higher wages than either thus giving the efficient employee an opportunity for promotion. The wages paid kitchen and dining room employees in the New York State Hospitals since April 1st, 1913, are as follows:

	Wages per month.	
	Minimum	Maximum
Chefs—Men	\$	\$ 95.00
Head Cooks—Men		55.00
Head Cooks—Women		55.00
Cooks—Men		35.00
Cooks—Women		35.00
Assistant Cooks—Women		30.00
Kitchen Helpers—Men	25.00	30.00
Kitchen Helpers—Women	18.00	25.00

The wages of kitchen helpers are increased from the minimum to the maximum at the rate of two dollars per month for each six months of continuous service.

Male attendants receive \$26.00 to \$34.00 per month; Women attendants, \$19.00 to \$25.00 per month; Special Attendants—Men, \$43.00 to \$50.00 per month, and Special Attendants—Women, \$35.00 to \$43.00 per month with an increase from the minimum to the maximum at the rate of two dollars per month for each six months of continuous service. (All persons receive maintenance.)

In a kitchen cooking for 600 inmates and employees, I would recommend the employment of one head cook, one cook and two kitchen helpers. In larger

kitchens the proportion of employees can be reduced, for instance, in a kitchen cooking for 1800 inmates I would recommend the employment of one head cook, two cooks and three kitchen helpers. In each instance there would be inmates to assist in doing the rough work and the cleaning. Where there is a number of employees to cook for at night, I would recommend the employment of a night cook in addition to the day force of the kitchen.

In small dining rooms attendants can be employed but in large dining rooms serving 300 persons or more it is best to have Special Attendants in charge with Attendants to assist them. As a general rule women make better dining room employees and men better kitchen employees especially if the kitchen cooks for over 100 persons. For small kitchens where the utensils are light, women give satisfactory service but in larger kitchens where heavy utensils are used it is difficult to secure women who can do the work.

Two books which will be found useful by persons having the supervision of kitchens and the instruction of cooks are "A Laboratory Handbook for Dietetics" by Mary Swartz Rose, Ph. D., Assistant Professor, Department of Nutrition, Teachers College, Columbia University, published by The Macmillan Company, New York City, N. Y., 1913, and "Institution Recipes for use in Schools, Colleges, Hospitals and other Institutions", by Emma Smedley, Publisher, 6 East Front Street, Media, Pennsylvania. There is much in these books which will be found useful for institutions. Two other books which are particularly useful for persons who have the supervision of institution kitchens are the "Methods of Fiscal Control of State Institutions" by Henry C. Wright, published by The State Charities Aid Association, No. 105 East 22nd Street, New York City, March 1911, and Section No. 9 "Report of the Committee of Inquiry into the Departments of Health, Charities and Bellevue & Allied Hospitals in the City of New York appointed by the Board of Estimate and Apportionment, City Hall, New York City".

Where a Training School for Nurses is maintained it is advisable to have the cooks and dining room employees take the same kind of work in dietetics as is prescribed for the pupils of the Nurses Training School, so that they will have a good knowledge of dietetics.

Where employees have become lazy or indifferent as a disciplinary method I would recommend transferring them to another kitchen, thereby changing their surroundings. This frequently causes them to render more satisfactory service and makes it unnecessary to secure new employees. This is recommended only in cases of employees who have been doing satisfactory work but for some reason may have become indifferent.

One source of dissatisfaction with the dietaries of prisons and penitentiaries, I believe, is the practice to have a prisoner cook in charge of the kitchen, who is under the supervision of a guard who knows nothing about kitchen management or cooking. Another source of trouble common to prisons and penitentiaries is the fact that they have inadequate kitchen equipment making it necessary to boil nearly everything they have to eat. The two combined produce a wasteful and therefore costly dietary, for except on special occasions the meals usually consist of some kind of boiled meat with potatoes and large quantities of bread, and as this becomes very monotonous it results in a large waste, estimated in one penitentiary of 1000 prisoners to equal at least \$15,000.00 a year.

METHODS OF CONTROL FOR KITCHENS AND DINING ROOMS

No. 4

In ordering supplies a kitchen as well as all other departments of an institution should be required to obtain all their supplies on requisitions. The requisitions should be made up in duplicate and a carbon copy should be retained in the kitchen so that the supplies may be checked with the carbon copy when they are received and a receipt given to the storeroom.

A great source of loss in ordering and distributing supplies is occasioned through not ordering supplies in accordance with the population for which the kitchen cooks. The Standard Basic Dietary Ration Tables, which are a part of this paper, are for the purpose of insuring that proper and uniform supplies of uncooked food will be sent to the kitchens. They are made up somewhat like an interest table; the different articles to be ordered appearing in a vertical column and the population in a horizontal column. Under the populations are shown the quantities to be ordered for a given number of persons for one meal unless otherwise specified. This system does away with the time honored one of fixing upon a given amount of food supplies to be sent to the kitchen and continuing to send the the same quantity of food supplies until there is such a waste or such a shortage that it is so evident as to be brought to someone's attention, and to cause them to realize that there is a waste or a shortage to be corrected.

Institutions usually have a fixed per capita ration allowance of food supplies and it is therefore necessary for them to devise some method of handling these supplies to the very best advantage, so as to provide as good a dietary as possible from the supplies available.

The following per capita ration allowance has been found sufficient for use in a State Hospital for the Insane:—

Meat and Fish	10.5	oz.
Farinaceous Foods	13.	"
Butter	1.5	"
Cheese	.3	"
Coffee	.165	"
Tea	.1175	"
Milk	1.	Pt.
Eggs	.5	Egg
Dried Fruit	.5	oz.
Sugar	2.	"
Potatoes	10.	"

This ration allowance is used in estimating the food supplies required for the inmates and employees in making up the quarterly estimates which are submitted to the State Hospital Commission, and the daily issues of food to the kitchens are made in accordance with the Standard Basic Dietary Ration Tables in use at the institution.

Some departments in estimating allowances of food supplies. (I think this is particularly true of City Departments) base their allowance on so much money per person. I believe this to be an improper way to estimate for food supplies for the reason that there is such a great variation in the market prices of commodities that some years there would be an adequate amount of food supplies and during other years, when the market was high, there would be an insufficient quantity or it would necessitate the use of a dietary giving very little variety. It is much better to have a fixed per capita ration allowance. For example, sometimes carcass beef can be bought for nine cents per pound and at other times it costs twelve cents per pound; eggs can be purchased at times at eighteen cents per dozen and at other times even refrigerator eggs cost thirty cents per dozen or

more. There are wide variations in the market prices of butter, flour, sugar, cereals, etc., which would very materially reduce the quantity of food supplies available for an institution in years of high prices if an allowance of so much money per capita was made rather than a ration allowance.

The operation of hotel and restaurant dining rooms and kitchens is much different from that of institution kitchens and dining rooms. The former have a checking system in use, where a given quantity or portion of a certain kind of food is sold for so much money, and this quantity is checked out of the kitchen and no matter whether the food is eaten or not, there is no loss to the hotel or restaurant.

In an institution a certain quantity of food is allowed to sustain a certain number of persons, and it is at times a difficult task to make this food go around especially where there is careless handling, poor cooking, indifferent dining room service, a fluctuating population and no automatic system of control. An institution should make its supplies go as far as possible and should stop leakages of food, after the manner of stopping losses of water through leaking faucets when there is a water famine in the City. There is without doubt a waste of food in institutions and private families, always has been and always will be. Our problem is to reduce this to what may be considered a normal quantity. The Standard Basic Dietary Ration Tables, and the Waste Accounting System, which will be described later, are the best means I know of to give satisfactory kitchen and dining room service and at the same time prevent unnecessary waste.

INSTRUCTIONS FOR USE OF THE STANDARD BASIC DIETARY RATION TABLES

The object of these tables is to facilitate the changing, at least weekly, if necessary, of the quantities of food supplies issued to the kitchens.

All the quantities are figured for an issue of uncooked food for one meal. When the issue is for a large number of persons the range in population is figured for increases in units of 20 from the minimum to the maximum. The range for small numbers of persons is figured for increases in units of 10 from the minimum to the maximum. In arriving at the quantity for which a kitchen should requisition, the quantity for the number of persons nearest to the population the kitchen cooks for, should be requisitioned, unless the waste reports show that certain article or articles are excessive when the next lower quantity should be requisitioned. Should the waste reports show that the quantity is too small of any article or articles, then the next larger quantity should be requisitioned.

In making up the requisitions the same order should be followed as is given at the top of each Standard Basic Dietary Table, viz:

Patients and Employees.
Patients only.
Employees only.
Workers only (Patients)

Each Saturday morning before 9:00 A. M. the Supervisors should furnish the Chef with a report showing the total number of persons eating their meals in their service as of that day made up in the following manner:—

Patients and Employees
Patients only
Employees only
Workers only (Patients)

and the kitchens should also furnish the Chef with a report showing the number of employees and patients, whom they are serving, that are not attached to the ward service, for which they cook, and from these reports the Chef will prepare a list giving the total number of persons supplied by each kitchen.

These tables are arranged to apply only to the patients and employees, who are receiving meals which are cooked in the following kitchens:—

“A-B” Kitchen
“C-D” Kitchen
“Group One” Kitchen
“Group Two” Kitchen
“Group Three” Kitchen

On each requisition covered by this Basic Dietary Ration Table the person making up same should impress the following rubber stamp:

<p>This dietary requisition is based on the following number of persons:</p> <p>Patients and Employees.....</p> <p>Patients only.....</p> <p>Employees only</p> <p>Workers only (Patients)</p>
--

and then fill in the number of persons for whom the supplies are required. The Chef and Storekeeper or their representatives will check up the requisitions to see

that the quantities thereon comply with the Standard Basic Dietary Ration Tables for the population given before the requisitions are forwarded to the Steward's office for approval, and they will place their initials on the requisitions so as to show by whom the checking was done.

CHAS. S. PITCHER

Steward.

September 7th, 1911.

Revised June 2nd, 1913.

FOR THE GUIDANCE OF THE CHEF, STOREKEEPER AND HEAD COOKS OF THE FIVE LARGE KITCHENS

Requisitions covered by the Standard Basic Dietary Ration Table will be made daily.

After the population, as reported to the Chef on Saturday, are calculated by him, he will furnish each kitchen with the population for which they should requisition for the week beginning with the following Wednesday.

He will also furnish the Steward, Storekeeper and provide himself with a list showing the number of persons for which each kitchen is to requisition. These lists are to be headed.....WEEK
BEGINNING.....(for week beginning
from the next Wednesday).

CHAS. S. PITCHER

Steward

September 7th, 1911.

Revised June 2nd, 1913.

STANDARD BASIC DIETARY RATION TABLE

ONE MEAL—BREAKFAST

EMPLOYEES AND PATIENTS

(Continued.)

		300	320	340	360	380	400	420	440	460	480	500
Cornmeal	lbs.	13	14	15	16	17	18	18½	19	20	21	22
Hominy	"	Same as above										
Rolled Oats	"	15	16	17	18	19	20	21	22	23	24	25
Wheat Flakes	"	Same as above										
Farina	"	Same as above										
Rice	"	11	12	13	14	14½	15	16	17	18	18½	19
Eggs	"	One Egg for Unemployed Patients Two Eggs for Employed Patients Three Eggs for Employees										

STANDARD BASIC DIETARY RATION TABLE

ONE MEAL—BREAKFAST

EMPLOYEES AND PATIENTS

(Continued.)

		520	540	560	580	600	620	640	660	680	700	720
Cornmeal	lbs.	23	24	25	25½	26	27	28	29	30	31	32
Hominy	"	Same as above										
Rolled Oats	"	26	27	28	29	30	31	32	33	34	35	36
Wheat Flakes	"	Same as above										
Farina	"	Same as above										
Rice	"	20	20½	21	22	22½	23	24	25	26	26½	27

STANDARD BASIC DIETARY RATION TABLE

ONE MEAL—BREAKFAST

EMPLOYEES AND PATIENTS

(Continued.)

		740	760	780	800	820	840	860	880	900	920	940
Cornmeal	lbs.	33	34	34½	35	36	37	37½	38	39	40	41
Hominy	"	Same as above										
Rolled Oats	"	37	38	39	40	41	42	43	44	45	46	47
Wheat Flakes	"	37	38	39	40	41	42	43	44	45	46	47
Farina	"	Same as above										
Rice	"	28	28½	29	30	31	32	32½	33	33½	34	35

STANDARD BASIC DIETARY RATION TABLE
ONE MEAL—BREAKFAST
EMPLOYEES AND PATIENTS
(Continued.)

		960	980	1000	1020	1040	1060	1080	1100	1120	1140	1160
Cornmeal	lbs.	42	43	44	45	46	47	48	49	50	51	51½
Hominy	"	Same as above										
Rolled Oats	"	48	49	50	51	52	53	54	55	56	57	58
Wheat Flakes	"	Same as above										
Farina	"	Same as above										
Rice	"	36	37	38	39	39½	40	41	41½	42	43	43½

STANDARD BASIC DIETARY RATION TABLE
ONE MEAL—BREAKFAST
EMPLOYEES AND PATIENTS
(Continued.)

		1180	1200	1220	1240	1260	1280	1300	1320	1340	1360	1380
Cornmeal	lbs.	52	53	53½	54	54½	56	57	57½	59	60	61
Hominy	"	Same as above										
Rolled Oats	"	59	60	61	62	63	64	65	66	67	68	69
Wheat Flakes	"	Same as above										
Farina	"	Same as above										
Rice	"	44	45	46	47	48	48½	49	50	50½	51	52

STANDARD BASIC DIETARY RATION TABLE
ONE MEAL—BREAKFAST
EMPLOYEES AND PATIENTS
(Continued.)

		1400	1420	1440	1460	1480	1500	1520	1540	1560	1580	1600
Cornmeal	lbs.	62	62½	63	64	65	66	67	67½	68	69	70
Hominy	"	Same as above										
Rolled Oats	"	70	71	72	73	74	75	76	77	78	79	80
Wheat Flakes	"	Same as above										
Farina	"	Same as above										
Rice	"	52½	53	54	55	56	56½	57	58	59	60	60½

STANDARD BASIC DIETARY RATION TABLE
ONE MEAL—BREAKFAST
EMPLOYEES AND PATIENTS
(Continued.)

		1620	1640	1660	1680	1700	1720	1740	1760	1780	1800	1820
Cornmeal	lbs.	71	72	73	74	75	75½	76	77	78	78½	79
Hominy	"	Same as above										
Rolled Oats	"	81	82	83	84	85	86	87	88	89	90	91
Wheat Flakes	"	Same as above										
Farina	"	Same as above										
Rice	"	61	62	62½	63	64	65	65½	66	67	67½	68

STANDARD BASIC DIETARY RATION TABLE
ONE MEAL - BREAKFAST
EMPLOYEES AND PATIENTS
(Continued.)

		1840	1860	1880	1900	1920	1940	1960	1980	2000	Per Cap. oz.
Cornmeal	lbs.	80	81	82	83	84	85	86	87	88	.7
Hominy	"	80	81	82	83	84	85	86	87	88	.7
Rolled Oats	"	92	93	94	95	96	97	98	99	100	.8
Wheat Flakes	"	Same as above									.8
Farina	"	Same as above									.8
Rice	"	69	70	71	71½	72	73	74	74½	75	.6

STANDARD BASIC DIETARY RATION TABLE
ONE MEAL - DINNER
PATIENTS ONLY
(Continued.)

[illegible]

STANDARD BASIC DIETARY RATION TABLE
ONE MEAL—DINNER
PATIENTS ONLY
(Continued.)

		520	540	560	580	600	620	640	660	680	700	720
Beef Stew	lbs	97½	101	105	109	112	116	120	124	128	131½	135
Mutton Stew	"	Same as above										
Frankfurters	"	Same as above										
Hamburger Roast	"	Same as above										
Sauerkraut	"	Same as above										
Farina	"	23	24	25	25½	26	27	28	29	30	31	32
Beans	"	49	51	52½	54	56	58	60	62	64	66	68
Beans—Lima	"	Same as above										
Potatoes	"	230	240	250	255	260	270	280	290	300	310	320
Canned Veg.	Gal.	14½	15	15½	16	16½	17	18	18½	19	19½	20

STANDARD BASIC DIETARY RATION TABLE
ONE MEAL—DINNER
PATIENTS ONLY
(Continued.)

[illegible]

STANDARD BASIC DIETARY RATION TABLE
ONE MEAL—DINNER
PATIENTS ONLY
(Continued.)

		960	980	1000	1020	1040	1060	1080	1100	1120	1140	1160
Beef Stew	lbs.	180	184	188	191½	195	198½	202	206	210	214	218
Mutton Stew	"	Same as above										
Frankfurters	"	Same as above										
Hamburger Roast	"	Same as above										
Sauerkraut	"	Same as above										
Farina	"	42	43	44	45	46	47	48	49	50	51	51½
Beans	"	90	92	94	96	98	100	102	103½	105	106½	108
Beans—Lima	"	Same as above										
Potatoes	"	420	430	440	450	460	470	480	490	500	510	515
Canned Veg.	Gal.	26	26½	27	28	29	29½	30	30½	31	31½	32

STANDARD BASIC DIETARY RATION TABLE
ONE MEAL—DINNER
PATIENTS ONLY
(Continued.)

[illegible]

STANDARD BASIC DIETARY RATION TABLE
ONE MEAL—DINNER
PATIENTS ONLY
(Continued.)

		1180	1200	1220	1240	1260	1280	1300	1320	1340	1360	1380
Beef Stew	lbs.	221	224	228	232	236	240	244	248	252	256	259½
Mutton Stew	"	Same as above										
Frankfurters	"	Same as above										
Hamburger Roast	"	Same as above										
Sauerkraut	"	Same as above										
Farina	"	52	53	53½	54	54½	56	57	57½	59	60	61
Beans	"	110	112	114	116	118	120	122	124	126	128	130
Beans—Lima	"	Same as above										
Potatoes	"	520	530	535	540	545	560	570	575	590	600	610
Canned Veg.	"	32½	33	33½	34½	35	36	36½	37	37½	38	38½

STANDARD BASIC DIETARY RATION TABLE
ONE MEAL—DINNER
PATIENTS ONLY
(Continued.)

[illegible]

STANDARD BASIC DIETARY RATION TABLE
ONE MEAL—DINNER
PATIENTS ONLY
(Continued.)

		1400	1420	1440	1460	1480	1500	1520	1540	1560	1580	1600
Beef Stew	lbs.	263	266½	270	274	278	281	285	288	292	296	300
Mutton Stew	"	Same as above										
Frankfurters	"	Same as above										
Hamburger Roast	"	Same as above										
Sauerkraut	"	Same as above										
Farina	"	62	62½	63	64	65	66	67	67½	68	69	70
Beans	"	132	134	136	138	140	142	144	145½	147	148½	150
Beans- Lima	"	Same as above										
Potatoes	"	620	625	630	640	650	660	670	675	680	690	700
Canned Veg.	Gal.	39	39½	40	40½	41	41½	42	42½	43	43½	44

STANDARD BASIC DIETARY RATION TABLE
ONE MEAL DINNER
PATIENTS ONLY
(Continued.)

[illegible]

STANDARD BASIC DIETARY RATION TABLE

ONE MEAL—DINNER

PATIENTS ONLY

(Continued.)

		1620	1640	1660	1680	1700	1720	1740	1760	1780	1800	Per Cz.
Beef Stew	lbs	304	308	312	316	319½	323	326½	330	333½	337	3.
Mutton Stew	"	Same as above										
Frankfurters	"	Same as above										
Hamburger Roast	"	Same as above										
Sauerkraut	"	Same as above										
Farina	"	71	72	73	74	75	75½	76	77	78	78½	1.7
Beans	"	151½	153	154½	156	158	160	162	164	166	168	1.5
Beans—Lima	"	Same as above										
Potatoes	"	710	720	730	740	750	755	760	770	780	785	7.
Canned Veg.	Gal.	44½	45	45½	46	46½	47	47½	48	48½	49	1.02772 Gls.

STANDARD BASIC DIETARY RATION TABLE

ONE MEAL—SUPPER

PATIENTS ONLY

(Continued.)

		300	320	340	360	380	400	420	440	460	480	500
Cornmeal	lbs	11	12	13	14	14½	15	16	17	18	18½	19
Hominy	"	Same as above										
Rice	"	Same as above										
Crackers	"	Same as above										
Macaroni	"	19	20	21	22½	23½	25	26	27½	29	30	31
Beans	"	28	30	32	33¾	35½	37½	39	41¼	43	45	47
Cheese	"	Same as above										
Prunes	"	Same as above										
Dates	"	Same as above										
Figs	"	Same as above										
Apricots	"	Same as above										
Peaches—Dried	"	Same as above										
Apples—Evap.	"	23½	25	26½	28	29½	31	33	34½	36	37½	39
Oysters or Clams		1800	1860	2040	2160	2280	2400	2520	2640	2760	2880	3000
Salt Fish	lbs.	94	100	106	112½	118½	125	131	137½	144	150	156

STANDARD BASIC DIETARY RATION TABLE
 ONE MEAL—SUPPER
 PATIENTS ONLY
 (Continued.)

		520	540	560	580	600	620	640	660	680	700	720
Cornmeal	lbs.	20	20½	21	22	22½	23	24	25	26	26½	27
Hominy	"	Same as above										
Rice	"	Same as above										
Crackers	"	Same as above										
Macaroni	"	32½	34	35	36	37½	39	40	41	42½	44	45
Beans	"	48¾	50½	52½	54	56	58	60	62	64	65½	67½
Cheese	"	Same as above										
Prunes	"	Same as above										
Dates	"	Same as above										
Figs	"	Same as above										
Apricots	"	Same as above										
Peaches—Dried	"	Same as above										
Apples—Evap.	"	40½	42	43½	45	46½	48	50	51½	53	54½	56
Oysters or Clams		3120	3240	3360	3480	3600	3720	3840	3960	4080	4200	4320
Salt Fish	lbs.	162½	169	175	181	188	194	200	206	212	218½	225

STANDARD BASIC DIETARY RATION TABLE
 ONE MEAL—SUPPER
 PATIENTS ONLY
 (Continued.)

		740	760	780	800	820	840	860	880	900	920	940
Cornmeal	lbs.	28	28½	29	30	31	32	32½	33	33½	34	35
Hominy	"	Same as above										
Rice	"	Same as above										
Crackers	"	Same as above										
Macaroni	"	46	47½	49	50	51	52	53½	55	56½	58	59
Beans	"	69	71	73	75	76½	78	80	82½	84	86	88
Cheese	"	Same as above										
Prunes	"	Same as above										
Dates	"	Same as above										
Figs	"	Same as above										
Apricots	"	Same as above										
Peaches—Dried	"	Same as above										
Apples—Evap.	"	57½	59	60½	62	64	66	67½	69	70½	72	73½
Oysters or Clams		4440	4560	4680	4800	4920	5040	5160	5280	5400	5520	5640
Salt Fish	lbs.	231	237	243½	250	256	262	268	275	281½	288	291

STANDARD BASIC DIETARY RATION TABLE
ONE MEAL - SUPPER
PATIENTS ONLY
(Continued.)

		960	980	1000	1020	1040	1060	1080	1100	1120	1140	1160
Cornmeal	lbs.	36	37	38	39	39½	40	41	41½	42	43	43½
Hominy	"	Same as above										
Rice	"	Same as above										
Crackers	"	Same as above										
Macaroni	"	60	61	62	63½	65	66½	68	69	70	71	72
Beans	"	90	91	93	95	97½	99	101	103	105	107	109
Cheese	"	Same as above										
Prunes	"	Same as above										
Dates	"	Same as above										
Figs	"	Same as above										
Apricots	"	Same as above										
Peaches—Dried	"	Same as above										
Apples—Evap.	"	75	76½	78	79½	81	82½	84	85½	87	88½	90
Oysters or Clams		5760	5880	6000	6120	6240	6360	6480	6600	6720	6840	6960
Salt Fish	lbs.	300	306	312½	319	325	331½	338	344	350	356	362

STANDARD BASIC DIETARY RATION TABLE
ONE MEAL - SUPPER
PATIENTS ONLY
(Continued.)

		1180	1200	1220	1240	1260	1280	1300	1320	1340	1360	1380
Cornmeal	lbs.	44	45	46	47	48	48½	49	50	50½	51	52
Hominy	"	Same as above										
Rice	"	Same as above										
Crackers	"	Same as above										
Macaroni	"	73½	75	76½	78	79	80	81	82	83	85	86½
Beans	"	110½	112	114	116	118	120	122	124	126	128	129½
Cheese	"	Same as above										
Prunes	"	Same as above										
Dates	"	Same as above										
Figs	"	Same as above										
Apricots	"	Same as above										
Peaches—Dried	"	Same as above										
Apples—Evaporated	"	91½	93	94½	96	98	100	101½	103	104½	106	107½
Oysters or Clams		7080	7200	7320	7440	7560	7680	7800	7920	8040	8160	8280
Salt Fish	lbs.	369	375	381½	388	394	400	406	412	418	424	430½

STANDARD BASIC DIETARY RATION TABLE

ONE MEAL—SUPPER

PATIENTS ONLY

(Continued.)

		1400	1420	1440	1460	1480	1500	1520	1540	1560	1580	1600
Cornmeal	lbs.	52½	53	54	55	56	56½	57	58	59	60	60½
Hominy	"	Same as above										
Rice	"	Same as above										
Crackers	"	Same as above										
Macaroni	"	88	89	90	91	92	93½	95	96½	98	99	100
Beans	"	131	133	135	136½	138	140	142	144	146	148	150
Cheese	"	Same as above										
Prunes	"	Same as above										
Dates	"	Same as above										
Figs	"	Same as above										
Apricots	"	Same as above										
Peaches—Dried	"	Same as above										
Apples—Evaporated	"	109	110½	112	113½	115	1 6½	118	119½	121	122½	124
Oysters or Clams		8400	8520	8640	8760	8880	9000	9120	9240	9360	9480	9600
Salt Fish	lbs.	437	443½	450	456	462	468	474	480½	487	493½	500

STANDARD BASIC DIETARY RATION TABLE

ONE MEAL—SUPPER

PATIENTS ONLY

(Continued.)

		1620	1640	1660	1680	1700	1720	1740	1760	1780	1800	Per Cap. Ozs.
Cornmeal	lbs.	61	62	62½	63	64	65	65½	66	67	67½	.6
Hominy	"	Same as above										
Rice	"	Same as above										
Crackers	"	Same as above										
Macaroni	"	101	102	103	104	105½	107	108½	110	111½	113	1.
Beans	"	150½	153	154½	156	158	160	162½	65	167	169	1.5
Cheese	"	Same as above										
Prunes	"	Same as above										
Dates	"	Same as above										
Figs	"	Same as above										
Apricots	"	Same as above										
Peaches—Dried	"	Same as above										
Apples—Evap.	"	126	128	130	132	133½	135	136½	138	139½	141	1.25
Oyster or Clams		9720	9840	9960	10080	10200	10 10 ¹¹ / ₂₅ M	10 11 ¹¹ / ₂₅ M	10 12 ¹¹ / ₂₅ M	10 13 ¹⁷ / ₂₅ M	10 4 ⁴ / ₅ M	6 ca.
Salt Fish	lbs.	506	512	518	524	530	536	543	550	556½	563	5.

STANDARD BASIC DIETARY RATION TABLE
ONE MEAL
EMPLOYEES ONLY
(Continued.)

		40	50	60	70	80	90	100	110	120	130	140
Rice	lbs.	2	2½	3	3½	4	4½	5	5½	6	6½	7
Tapioca	“	Same as above										
Sago	“	Same as above										
Apples—Evap.	“	4½	5½	6½	7½	8½	10	11	12	13	14	15
Pork Sausages	“	16½	20	24	28½	32½	36	40	44½	48¾	53	57

STANDARD BASIC DIETARY RATION TABLE
ONE MEAL
EMPLOYEES ONLY
(Continued.)

[illegible]

STANDARD BASIC DIETARY RATION TABLE

ONE MEAL

EMPLOYEES ONLY

(Continued.)

		150	160	170	180	190	200	210	220	230	240	250
Canned Salmon	lbs.	37½	40	42½	45	47½	50	52½	55	57½	60	62½
Roast Beef	"	84	90	95½	101	106½	112	117½	123	128½	134	139½
Roast Mutton	"	Same as above										
Fresh Fish (Dressed —Heads Off)	"	Same as above										
Hamburger Roast	"	47	50	53	56	59	62	65¼	68½	71¾	75	78¼
Hamburger Steak (Meat)	"	56	60	63½	67	70½	74	78	82	86	90	93½
Beef Stew (Meat)	"	Same as above										
Mutton Stew (Meat)	"	Same as above										
Salt Fish	"	Same as above										
Liver	"	Same as above										
Cold Meat	"	65½	70	74	78	83	88	92	96	100	104	108½
Beef Steak	"	Same as above										
Mutton Chops	"	75	80	85	90	95	100	105	110	115	120	125
Pork Chops	"	Same as above										
Ham	"	Same as above										
Potatoes (Peeled)	"	Same as above										

STANDARD BASIC DIETARY RATION TABLE

ONE MEAL

EMPLOYEES ONLY

(Continued.)

		150	160	170	180	190	200	210	220	230	240	250
Rice	lbs.	7½	8	8½	9	9½	10	10½	11	11½	12	12½
Tapioca	"	Same as above										
Sago	"	Same as above										
Apples—Evap.	"	16	17½	18½	20	21	22	23	24	24½	25½	27
Pork Sausages	"	61	65	69	73	76½	80	84½	89	93	97½	102

STANDARD BASIC DIETARY RATION TABLE
ONE MEAL
EMPLOYEES ONLY
(Continued.)

		260	270	280	290	300	Per Cap. Oz.
Gelatine	lbs.	34	33	31½	35	33	.2
Macaroni	"	20	21	22	23	24	1.25
Beans	"	24	25	26	27	28	1.5
Cheese	"	Same as above					
Green Peas	"	16	16½	17	17½	18	1.
Split Peas	"	Same as above					
Peaches—Evap.	"	32½	33¾	35	36¼	37½	2.
Prunes	"	Same as above					
Eggs		780	810	840	870	900	3 each
1/2 Bacon	lbs.	48	50	52	54	56	3.
1/2 Eggs		520	540	560	580	600	2 each
1/2 Bacon	lbs.	48	50	52	54	56	3.
1/2 Liver	"	65	67½	70	72½	75	4.
Frankfurters	"	Same as above					
1/2 Ham	"	81½	84¾	88	91	94	5.
1/2 Eggs		520	540	560	580	600	2 each
Corned Beef							
Hash (Meat)	"	65	67½	70	72½	75	4.
Fresh Beef							
Hash (Meat)	"	Same as above					

STANDARD BASIC DIETARY RATION TABLE
ONE MEAL
EMPLOYEES ONLY
(Continued.)

		260	270	280	290	300	Per Cap. Oz.
Canned Salmon	lbs.	65	67½	70	72½	75	4.
Roast Beef	"	145	150½	156	162	168	9.
Roast Mutton	"	Same as above					
Fresh Fish	"	Same as above					
(Dressed Heads Off)							
Hamburger Roast	lbs.	81½	84¾	88	91	94	5.
Hamburger Steak	"						
(Meat)		97	100½	104	108	112	6.
Beef Stew (Meat)	"	Same as above					
Mutton Stew (Meat)	"	Same as above					
Salt Fish	"	Same as above					
Liver	"	Same as above					
Cold Meat	"	113	117½	122	126½	131	7.
Beef Steak	"	Same as above					
Mutton Chops	"	130	135	140	145	150	8.
Pork Chops	"	Same as above					
Ham	"	Same as above					
Potatoes (Peeled)	"	Same as above					
Rice	"	13	13½	14	14½	15	.8

STANDARD BASIC DIETARY RATION TABLE
ONE MEAL
WORKERS ONLY
(Continued.)

		340	360	380	400	420	440	460	480	500	520	540
C. C. Beef	lbs	85	90	95	100	105	110	115	120	125	130	135
Pickled Meat	"	Same as above										
Canned Salmon	"	Same as above										
Cold Meat	"	106	112	118	124	130½	137	143½	150	156½	163	169½
Salt Codfish	"	Same as above										
Salt Fish (Various)	"	Same as above										
Corned Beef												
Hash (Meat)	"	64	68	72	76	78	82	86	90	93	96	100
Beef Stew (Meat)	"	Same as above										
Fresh Beef												
Hash (Meat)	"	Same as above										
Frankfurters	"	Same as above										

STANDARD BASIC DIETARY RATION TABLE
ONE MEAL
WORKERS ONLY
(Continued.)

		560	580	600	Per Cap. oz.
C. C. Beef	lbs	140	145	150	4.
Pickled Meat	"	Same as above			
Canned Salmon	"	Same as above			
Cold Meat	"	176	182	188	5.
Salt Codfish	"	Same as above			
Salt Fish (Various)	"	Same as above			
Corned Beef					
Hash (Meat)		104	108	112	3.
Beef Stew (Meat)	"	Same as above			
Fresh Beef					
Hash (Meat)	"	Same as above			
Frankfurters	"	Same as above			

STANDARD BASIC DIETARY RATION TABLE
PATIENTS AND EMPLOYEES
DAILY

		1840	1860	1880	1900	1920	1940	1960	1980	2000	Per Cap. oz.
Coffee	lbs.	43 $\frac{5}{8}$	44 $\frac{1}{8}$	44 $\frac{5}{8}$	45 $\frac{1}{8}$	45 $\frac{1}{2}$	46	46 $\frac{1}{2}$	47	47 $\frac{1}{2}$	.38
Tea	"	11 $\frac{1}{2}$	11 $\frac{3}{8}$	11 $\frac{3}{4}$	11 $\frac{1}{4}$	12	12 $\frac{1}{8}$	12 $\frac{1}{4}$	12 $\frac{3}{8}$	12 $\frac{1}{2}$	.10
Milk—Fluid	qts.	368	372	376	380	384	388	392	396	400	.4 pt.
Milk—Condensed	"	138	139 $\frac{1}{2}$	141	142 $\frac{1}{2}$	144	145 $\frac{1}{2}$	147	148 $\frac{1}{2}$	150	.15 pt.
Sugar	lbs.	143 $\frac{1}{2}$	145	146 $\frac{1}{2}$	148	150	151 $\frac{1}{2}$	153	154 $\frac{1}{2}$	156	1.25
Butter	"	Same as above									1.25

To illustrate the use of the Standard Basic Dietary Ration Tables, the following list of changes is given so as to show in detail the operation of the tables. It will be noted that in a few instances certain increases and decreases have been made to meet the needs of individual kitchens:—

"A. B." Kitchen.

763 Women Patients.

163 Employees.

BREAKFAST (Patients and Employees)

Cereals—Sixty Rations less than quantity allowed

(Hominy and Cornmeal2 $\frac{1}{2}$ lbs.)

(Rolled Oats, Wheat Flakes.....3 lbs.)

(Rice2 $\frac{1}{4}$ lbs.)

Steak (Employees).....23 Rations—less, ten pounds

Chops ".....20 Rations—less, ten pounds

Hamburger Steak (Employees).....26 Rations—less, ten pounds

DINNER (Employees)

Roast Meats18 Rations—less, ten pounds

SUPPER (Employees)

Cold Meats.....23 Rations—less, ten pounds

Tapioca (Patients)48 Rations—less, 1 $\frac{1}{2}$ pounds

"C. D." Kitchen (Men and Women)

731 Men Patients

76 Women Patients

133 Men Employees

6 Women Employees

BREAKFAST (Employees)

Steaks.....10 Rations more than the quantity allowed—4 $\frac{1}{4}$ lbs.

Mutton Chops10 Rations more than the quantity allowed—5 lbs.

DINNER (Employees)

Roasts6 Rations more than the quantity allowed—3 lbs.

Group One—Kitchen (Men and Women)

365 Men Patients

1273 Women Patients

80 Men Employees

162 Women Employees

DINNER (Employees)	
Roast Meats	7 Rations less—4 pounds
SUPPER (Employees)	
Cold Meats	18 Rations less—8 pounds
Farina (Patients).....	180 Rations less—9 pounds
Sago (Patients).....	192 Rations less—6 pounds
Tapioca (Patients)	192 Rations less—6 pounds
Group Two—Kitchen (Men and Women)	
150 Men Patients	
350 Women Patients	
102 Men Employees	
54 Women Employees	
BREAKFAST (Patients and Employees)	
Cereals—60 Rations less than the quantity allowed	
(Hominy and Cornmeal	2½ lbs.)
(Rolled Oats and Wheat Flakes	3 lbs.)
DINNER (Employees)	
Roast Meats.....	35 Rations more than the quantity allowed—20 lbs.
Group Three—Kitchen (Men)	
No changes	

INSTRUCTIONS FOR USE OF THE STANDARD BASIC DIETARY RATION TABLE FOR BREAD

In arriving at the proper quantity of bread, which a dining room or kitchen should requisition for, the quantity given in the table for the number of persons nearest to the number, who are eating in the dining room should be requisitioned, unless the quantity of bread returned to the kitchen shows that too much bread is being received, in which event the next lower quantity should be requisitioned for.

Should the bread left over from the meal show that the quantity of bread for the population of the dining room is too small, the next larger quantity on the list should be requisitioned for.

In making up requisitions the number of employees and the number of patients eating in the dining room should be given in the upper left hand corner of the requisition.

CHAS. S. PITCHER

December 22nd—1913

Steward.

STANDARD BASIC DIETARY RATION TABLE
BREAD- DAILY
EMPLOYEES AND PATIENTS

lbs. 12½	20	25	30	35	40	45	50	55	60	65	70	75	80
	15½	18¾	22	25	28	31	34	37½	41	44	47	50	
lbs. 53	85	90	95	100	105	110	115	120	125	130	135	140	145
	56	59	62	65	68	71½	75	78½	82	84½	87½	91	
lbs. 94	150	155	160	165	170	175	180	185	190	195	200	205	210
	97	100	103	106	109	112	115	118	121½	125	127½	130	
lbs. 133	215	220	225	230	235	240	245	250	255	260	265	270	275
	136	140	144	147	150	153½	157	160½	164	166½	169	172	
lbs. 175	280	285	290	295	300	305	310	315	320	325	330	335	340
	178½	182	185	187½	190½	194	197	200	203	206	209	212	
lbs. 215	345	350	355	360	365	370	375	380	385	390	395	400	405
	218	221½	225	228	231	234	237	240	243	246½	250	253	
lbs. 256	410	415	420	425	430	435	440	445	450	455	460	465	470
	259	262½	265	269	272	275	278	281	284	288	291	294	
lbs. 297	475	480	485	490	495	500	505	510	515	520	525	530	535
	300	303½	307	309½	312½	316	319	321	325	328	331	334	
lbs. 337½	510	515	520	525	530	535	540	545	550	555	560	565	570
	341	344	347	350	353	356	359	362½	365	369	372	375	
lbs. 378	605	610	615	620	625	630	635	640	645	650	655	660	665
	381	384½	388	391	394	397	400	403	406	409	412	415	
lbs. 418	670	675	680	685	690	695	700	705	710	715	720	725	730
	421	424	427½	431	434	437½	440	443	446½	450	453	456	
lbs. 459	735	740	745	750	755	760	765	770	775	780	785	790	795
	462	465	468	471	474	477	480	483	486	489	493	496	
lbs. 500	800	805	810	815	820	825	830	835	840	845	850	855	860
	503	506	509	512	515	518	521½	525	528	531	534½	538	
lbs. 541	865	870	875	880	885	890	895	900	905	910	915	920	925
	544	547	550	553	556	559	562	565	568	572	576	579	
lbs. 582	930	935	940	945	950	955	960	965	970	975	980	985	990
	585	588	591	594	597	600	603½	607	610	613½	616	619	
lbs. 621	995	1000	1005	1010	1015	1020	1025	1030	1035	1040	1045	1050	1055
	625	628½	632	635	638	640	643	646½	650	653	656	659	
lbs. 662	1030	1035	1040	1045	1050	1055	1060	1065	1070	1075	1080	1085	1090
	635	638	641½	645	648	651½	655	658	661½	665	668	671½	675
lbs. 703	1125	1130	1135	1140	1145	1150	1155	1160	1165	1170	1175	1180	1185
	706	709	712	715	718	721½	725	728	731	734½	738	741	
lbs. 744	1190	1195	1200	1205	1210	1215	1220	1225	1230	1235	1240	1245	1250
	747	750	753	756	759	762	765½	769	772½	776	779	782	

STANDARD BASIC DIETARY RATION TABLE

BREAD—DAILY

EMPLOYEES AND PATIENTS

(Continued.)

lbs. 1255	1260	1265	1270	1275	1280	1285	1290	1295	1300	1305	1310	1315
785	788	791	794	797	800	803	806	809	812	815	818	821
lbs. 1320	1325	1330	1335	1340	1345	1350	1355	1360	1365	1370	1375	1380
824	827	830	833	836	839	842	845	848	851	856	859	862
lbs. 1385	1390	1395	1400	1405	1410	1415	1420	1425	1430	1435	1440	1445
865	868	871½	875	878	881	884	887	890	894	897	900	903
lbs. 1450	1455	1460	1465	1470	1475	1480	1485	1490	1495	1500	1505	1510
906	909	912	915	918	921	924	927	930	933	937	940	943
lbs. 1515	1520	1525	1530	1535	1540	1545	1550	1555	1560	1565	1570	1575
945	948	951	954	957	960	963	966	969	972	975	978	982
lbs. 1580	1585	1590	1595	1600	1605	1610	1615	1620	1625	1630	1635	1640
983	989	992	996	1000	1003	1003	1009	1012	1015	1018	1021½	1025
lbs. 1645	1650	1655	1660	1665	1670	1675	1680	1685	1690	1695	1700	1705
1028	1031	1034	1037	1040	1044	1047	1050	1053	1056	1059	1062	1065½
lbs. 1710	1715	1720	1725	1730	1735	1740	1745	1750	1755	1760	1765	1770
1069	1072½	1076	1078½	1081	1084½	1088	1091	1094	1097	1100	1103	1106
lbs. 1775	1780	1785	1790	1795	1800	1805	1810	1815	1820	1825	1830	1835
1100	1112	1115	1118	1121	1125	1127	1130	1133	1136	1140	1144	1148
lbs. 1840	1845	1850	1855	1860	1865	1870	1875	1880	1885	1890	1895	1900
1152	1155	1158	1161	1164	1166½	1169	1172½	1176	1179	1182	1185	1188
lbs. 1905	1910	1915	1920	1925	1930	1935	1940	1945	1950	1955	1960	1965
1191	1194	1197	1200	1203½	1207	1210½	1214	1217	1220	1223½	1227	1229½
lbs. 1970	1975	1980	1985	1990	1995	2000	Per Capita—ozs.					
1232	1235	1238	1240	1243	1246	1250	10.					

In institutions it is quite a general practice to allow the bakery to deliver on verbal orders whatever quantity of bread the kitchens and dining rooms may order. This has been found to be a large source of waste as the quantities of bread used in dining rooms for approximately the same number of persons vary greatly, as is shown by the following list of quantities actually issued to the dining rooms of a large institution. It is, therefore, recommended that bread be issued only on requisition of the dining rooms. By doing this the baker knows at the beginning of each week how much he will have to bake that week, and he is, therefore, able to regulate the baking so as to have the proper quantity of bread on hand to meet the needs of the kitchens and dining rooms. This will prevent the baking of an over-supply of bread which may become stale. The dining rooms will take better care of the bread and will give careful supervision to the serving of it. The elimination of the above sources of waste will result in a large saving in flour.

QUANTITY OF BREAD ISSUED DAILY FOR ONE WEEK.

Din.	Rooms	Ibs.	Total Census	Wom. Pts.	W. Emp.	Men Pts.	Men Emp.	Per Cap. ozs.
Chronic Disturbed								
B. A.		150	224	163	61	.....	.....	10.71
Women's Reception Convalescent and Suicidal Acute Disturbed								
B. B.		166½	273	220	53	.....	.....	9.75
Male Reception Convalescent and Suicidal								
B. C.		161½	255	.....	.....	220	35	10.13
Acute and Chronic Disturbed								
B. D.		290	338	.....	.....	290	48	13.72
Chronic Working Patients								
M. D. Hall		268	350	44	2	262	42	12.25
Chronic Disturbed and Chronic Working Patients								
Group 1		1426	1875	1286	122	356	111	12.16
Women's Hospital Service								
Group 2		272	506	352	54	.....	100	8.60
Men's Hospital Service and Chronic Working Patients								
Group 3		400	459	.....	13	406	40	13.94
Acute Working Patients								
Cott—28		27½	40	36	4	.....	.....	11.
Feeble—Senile								
Cott—17		34	45	41	4	.....	.....	12.08
Chronic Non—Workers								
Cott—18		38	62	58	4	.....	.....	9.8
Epileptic - Non-Workers								
Cott—19		41	61	56	5	.....	.....	10.75
Convalescent and Acute Workers								
Cott—20		18¾	29	24	5	.....	.....	10.34
Chronic Workers								
Cott 21		34	53	52	4	.....	.....	9.71
Chronic—Idle								
Cott 22		34	45	41	4	.....	.....	12.08
Chronic - Disturbed								
Cott—23		34	45	41	4	.....	.....	12.08
Feeble—Senile								
Cott—24		34	45	41	4	.....	.....	12.08
Chronic— Outdoor Workers, Boiler House, Etc.								
Cott—33		150	161	.....	.....	150	11	14.90

GRADUATED RATION DIPPERS

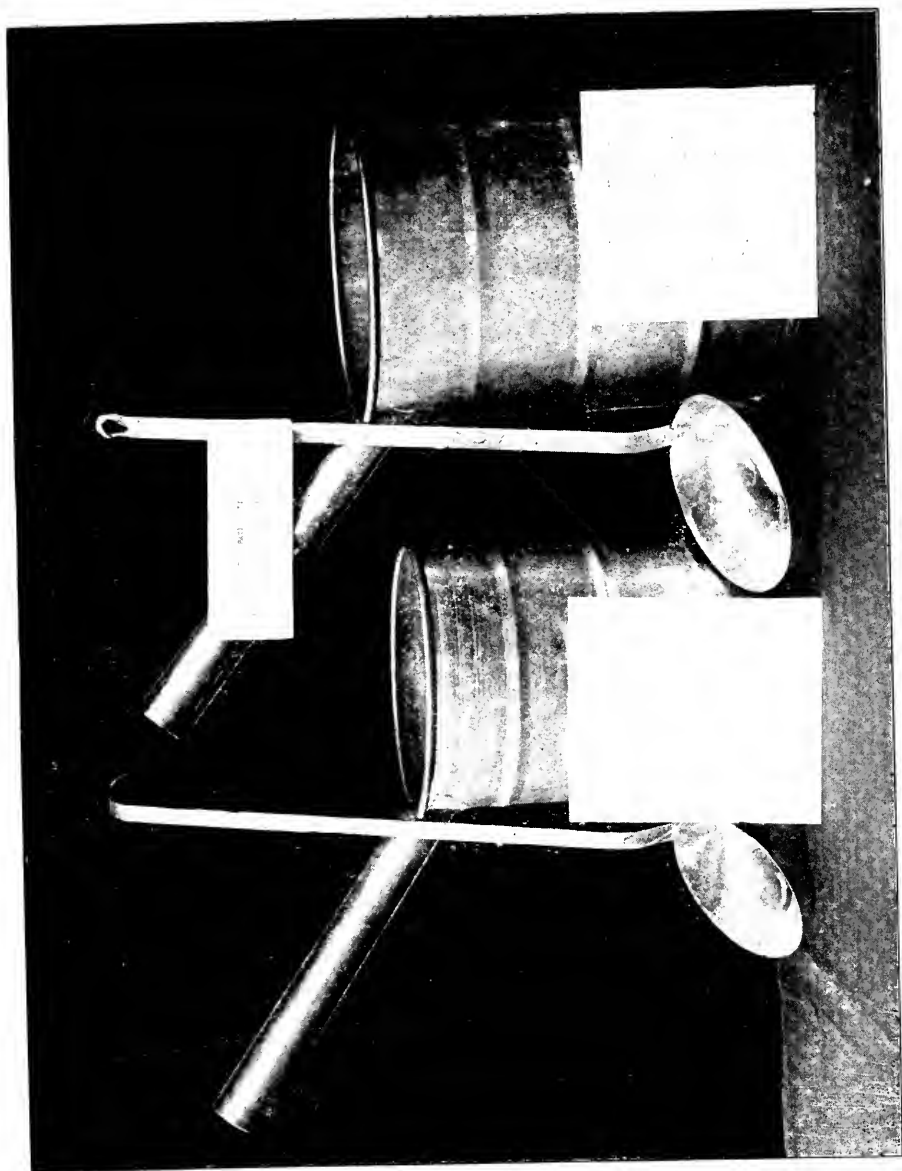


Figure 4

On the cards shown in the photograph above (Figure 4), is a description of the manner in which to use the dippers.

The large dippers shown in the photograph are made of tin and are beaded in an ordinary beading machine, such as tinsmiths use for strengthening tinware. Each graduation formed by this beading represents five rations and each dipper holds twenty rations. The cook instead of guessing at the quantity of food to send to the dining rooms after it is cooked uses these dippers. Each week he is provided with the population of each of the dining rooms for which he cooks. This is put on a blackboard in the kitchen, so that all the persons working in the kitchen can see the population. If there was cereal for breakfast and the cook was distributing the cereal to several different dining rooms, the cereal would be measured out into food boxes. If ninety persons were receiving their meals in the dining room, the cook would dip the small cereal dipper four times full into the food box, the fifth dipping would be only to the fifteen ration graduation, which would make ninety-five rations in all, five more than the number of persons eating in the dining room.

After the food box was received in the dining room, the dining room employees would take their ladles of $1\frac{1}{2}$ gills capacity, shown in the photograph, and would serve one ladle full to each person. If any one wished any more than one ladle full or what we term a second helping, the five extra rations would probably cover such demands. If the five extra rations were not needed, they would be returned, as Usable Food, to the kitchen to be utilized in other meals. This system is used for each article enumerated on the descriptive cards in the photograph and for measuring special diet milk and other things of that nature. The $2\frac{1}{2}$ gill ladle for measuring soups, oyster stew, etc., is used in the same manner as the $1\frac{1}{2}$ gill ladle. The use of Graduated Ration Dippers and the Individual Ration Ladles guarantees that inmates will receive uniform quantities of food, prevents waste and reduces the work of the kitchen and dining room employees.

If there are sufficient steam roasters a good way of controlling the issuing of cooked meat to the dining rooms, where the kitchen cooks for more than one, is to weigh the meat when it is received from the butcher shop, using the Standard Basic Dietary Ration Tables to determine the quantities each dining room should receive. After the meat is divided into separate lots it can be roasted in individual roasters and then sent to the dining rooms. Where there are insufficient roasters, so that one roaster cannot be set aside for each dining room, or insufficient ovens or kettles, the meat can be separated and a numbered metal skewer thrust into the different pieces for each dining room. The numbered pieces can then be put together in one receptacle and roasted or boiled, as the case may be. When the meat is taken out and placed in the mess boxes of the respective dining rooms, the metal skewers should be removed.

The quantity of water used in preparing cereals should be regulated so that the cereals will be of the same consistency each time they are cooked. By experience it has been found that the following quantities of water may be used for cooking cereals of the nature of those indicated below:—

CEREAL	WATER
Farina 1 lb.....	$3\frac{1}{2}$ Quarts
Rolled Oats or Wheat 1 lb.....	$4\frac{1}{4}$ "
Hominy 1 lb.....	4 "
Cornmeal 1 lb.....	4 "
Rice 1 lb.....	3.8 "

Use one ounce of salt to each gallon of water for the above cereals.

Where large jacketed kettles are used the necessity of measuring the water in small quantities can be obviated by using a stick similar to those used in measuring milk in cans, the stick being so marked that it will show how much water should be placed in the jacketed kettle for a certain quantity of cereal.

In buying new jacketed kettles it will be possible to have the kettles graduated on the inside so as to show certain quantities the same as the Graduated Ration Dippers.

WASTE ACCOUNTING SYSTEM

The "Waste Accounting System" is mentioned favorably on Pages 315, 316 and 317 of Mr. Henry C. Wright's very admirable report of his investigation of the Methods of Fiscal Control of State Institutions, which was published in 1911 by the State Charities Aid Association, No. 105 East 22nd Street, New York City, and is recommended and described in Section nine, Food Consumption Report of the Committee on Inquiry into the Department of Health, Charities, and Bellevue and Allied Hospitals, Board of Estimate and Apportionment, City Hall, New York, N. Y.

When using the "Waste Accounting System," the dining rooms, instead of dumping all the waste from the tables into one container after the meal, gather up the different things separately which are left over on the patients' plates and on the tables, so far as they can be. Where there is more than one ward served in the same dining room, the different wards gather up the waste from their tables and take it to the scullery of the dining room and the same kinds of waste from the tables of the different wards is all put into one container, and the several containers are then sent to the kitchen to be weighed.

The food which has not been served on the tables and which is classed as "usable food" is sent back to the kitchens in separate containers from the serving room and is weighed up and utilized again. An employee in each kitchen is detailed to weigh up the "waste and usable food" as the dining rooms bring it back to the kitchen.

Where a kitchen is cooking for but two or three dining rooms the additional work is of little account, but where they receive waste from several dining rooms it causes some additional work, when the system is first started. After it is in operation it is little trouble, and the cooks prefer it to the old way for the reason that with the old system when too much of any article of food was sent to the dining room, it could not have been readily ascertained, as the different articles of food all came back in one receptacle into which they had been dumped in the dining rooms, and if a dining room had received too much of an article of food or too little, it was hard for the cook to determine this fact.

With the "Waste Accounting System" if too much of anything is sent to a dining room it is shown when the waste and usable food is returned after the meal from the dining room to the kitchen and weighed up, which is of much assistance to the cook for the reason that all the uncooked food is sent to the kitchen in bulk, where it is prepared and sent to the dining rooms. The cook in separating the food, so as to send the proper quantities to the different dining rooms, has to use considerable judgment, and unless he has some way of checking up the sub-divisions, which he has made of the bulk of cooked food, he is very liable to make mistakes and send too large or too small a quantity to some place and this might continue for a considerable time, unless some dining room complained of receiving too small or too large a quantity. The assistance which this system gives the chef and the cooks in the accurate distribution of cooked food to the different dining rooms more than offsets the work which the system causes.

The principal trouble experienced in the operation of the Waste Accounting System, is to get the different dining rooms and kitchens to separate their waste in the same way for the reason that it is difficult to get a considerable number of different persons to do the same thing in an equally efficient manner, even though they may have printed instructions to follow, for different persons will take different meanings from the same instructions. To overcome this as much as possible brief instructions are given at the bottom of the waste reports—Form No. 333, and the persons, who have direct charge of the work, are also instructed verbally until they learn the system.

The waste on the tables can be gathered up while the inmates are waiting for the cutlery to be cleared from the tables. This will expedite the work considerably, as all the regular dining room employees and patients will have to do is to simply carry the plates containing the waste, which has been collected, and empty them into the proper containers in the serving room. The use of containers of uniform weight for sending the items back to the kitchens for weighing will facilitate the operation of the Waste Accounting System.

Form No. 333—Waste Report, should be on hand in the kitchens for use in recording what is returned by the dining rooms to the kitchens. A supply of these forms should be placed in a suitable binder and kept in the kitchens, proper entries being made after each meal on the blank of that day. These blanks should not be taken from the kitchen for the purpose of tabulation oftener than once each month for the reason that they are useful to the kitchens and dining rooms for checking back to see how they are averaging with other days when similar things were served at meal time.

The records listed below, specimens of which follow, are used in connection with the Waste Accounting System:

Form No. 333—Daily Report of "Waste" and "Usable" food returned to "A. B." Kitchen—January 1st, 1914.

Monthly Summary Sheet "Waste" not usable—"A. B." Kitchen for Jan.—1914.

Monthly Summary Sheet "Usable" food—"A. B." Kitchen for Jan.—1914.

Comparison Sheet—"Waste" not usable—"A. B." Kitchen.

Comparison Sheet—"Usable" food—"A. B." Kitchen.

Per Capita Sheet—"A. B." Kitchen.

Semi-annual Comparison Sheet—July 1st, 1913, to December 31st, 1913, of all kitchens.

(Form No. 333 is kept by the kitchens but the other records are prepared in the Steward's Office from the information supplied by Form No. 333.)

STATE OF NEW YORK--STATE HOSPITAL COMMISSION

Daily Report of Waste and Usable Food Returned by Dining Rooms to Kitchens

A B

Kitchen

Date

Jan. 1st.

1917

Dining Rooms		WASTE NOT USABLE—LBS.					USABLE FOOD WHICH CAN BE UTILIZED BY KITCHENS—LBS.					
		PS le a r t a e p s	Bread	Potato Skins	Pudding	P. Fruits	Meat	Bones	Bread	Cereals	Potatoes	Vege- tables
Breakfast	.....										
17	.....										
18	.....	3										
19	.....										
20	.....	5										
21	.....	4										
22	.....	6										
23	.....	3										
24	.....	5										
B. A.	16											
B. R.	18								2			
Dinner	.....										
17	.....	3										
18	.....	6										
19	.....						12				1	
20	.....	6			1		22	3	1			
21	.....	4			1		12	3				
22	.....	8				1			1		1	
23	.....	6			2		12	2	1			
24	.....	5			2		12	2			1	
B. A.	13		2	14	2	3	1	14	3		2	
B. R.	18		2	10	2	2	1	15	1		2	
Supper	.....										
17	.....	6										
18	.....	4										
19	.....	7										
20	.....	5										
21	.....	4										
22	.....	6										
23	.....	3					12					
24	.....	5										
B. A.	19						2	8	2			
B. R.	14						1	6	1			

The waste from dining rooms should be kept separate and each kind weighed. So far as is necessary all the food sent to the dining rooms should be served so that the patients can have an opportunity to eat it. Care should be taken not to hold too much back for a second helping for if too much is held back and not served during the meal but is returned to the kitchen unused it will appear that too large a quantity of food has been sent to that dining room. When a dining room returns practically no waste and another dining room considerable waste it is an indication that one dining room is receiving too much and the other too little and some should be cut from one and sent to the other and this should be done before reducing the requisitions on the storehouse to prevent deprivation of the patients. All liquids—water, coffee, tea, etc., should be kept out of the waste.

WASTE is such things as cannot be again utilized by the kitchens on account of having been served on the tables in the dining rooms. USABLE FOOD is such food as has not been served on said tables. BONES from cured meats are used in stock kettle and care should be taken to keep these separate. Blank spaces are left for kitchens to list anything returned which is not covered by the printed headlines.

"Plate Scraps": When removing waste from the dining room tables to be returned to the kitchens for weighing, cereals, potato skins, meat, vegetables, etc., should be kept separate and what can not be separated should be listed by the kitchens as plate scraps.

WASTE ACCOUNTING SYSTEM—MONTHLY SUMMARY SHEET

"A. B." KITCHEN

WASTE NOT USABLE—LBS.

1914 Jan.	Plate Scraps	Bread	Potato Skins	Pud.	Pota- toes	Veg.	Stew	Fish Bones	Meat	Misc.
1	201	6	24	10	6					
2	186	9	31	9		8	4			
3	164	4		8		12				
4	196	9								
5	182	9	26	4	4					18
6	185	11	29	10		9				
7	198	8	27	7				34		
8	192	9	32	6	4	3				
9	179	10	25	10	5			40		
10	189	8	31	7		11	4			
11	194	10	27	3		8				
12	187	9	33		3	10				9
13	189	11		11	4		9			
14	173	12	26	10					4	
15	161	8	26	9		3				
16	163	10	31	3		10		45		
17	206	10	31	6		3				
18	182	10	24	9		3				
19	195	10	25	3		12				
20	166	10		17	3	7	5			
21	164	17	5	7				36		
22	167	8	36	7	5	6				
23	146	16	27	5	3	7				
24	194	20	10	8		8				
25	161	14	15	3		4				
26	194	12	20	3	3	7				
27	203	6	33	11		8				
28	180	7	33	10		8		38		
29	184	3		5	2	7	3			
30	222	13	30	6		4		32		
31	192	12	24	5		4				
Totals	5708	311	681	212	42	162	25	225	4	27

WASTE ACCOUNTING SYSTEM - MONTHLY SUMMARY SHEET

"A. B." KITCHEN

USABLE FOOD—LBS.

Jan. 1914	Meat	Bones	Bread	Cereals	Pota- toes	Veg.	Misc.	Pudding
1	7	53	14		9			
2	9	13	10		4		9	
3	10	27	17		7		7	3
4	10		10	4	4	9		
5	8	37	9	4	7			
6	9	34	11		6			
7	11	24	11		3			
8	10	30	11		4	6	5	
9	4	14	12	2	2			
10	10	27	9		8			
11	20	41	10	3	7			
12	12	33	10	6	4			
13	9	32	6		2			
14	5	23	25	9	4		5	
15	7	50	11	3	5			
16	2	13	11	5	7	9		
17	10	16	13		9			
18	8	15	14		4		7	
19	9	50	9		2			
20	7	44	6	11	5	8		
21	8	22	13		4		5	
22	15	49	11	2	8			
23			7	3	3	4		
24	2	48		2		3		
25	5	48	1	5			2	
26	3	32	5	3	2			
27	11	38	15	3	7			
28	9	15	9	3	4		9	
29	13	35	19		6			
30	5		7	5	8		7	
31	14	39	6		3		9	
Totals	262	902	322	73	148	39	65	3

WASTE ACCOUNTING SYSTEM—COMPARISON SHEET.

"A. B." KITCHEN

WASTE NOT USABLE—LBS.

1914	Plate Scraps	Bread	Potato Skins	Pud.	Pota-toes	Veg.	Stew	Fish Bones	Meat	Misc.
Jan. Feb. Mar. April May June	5708	311	681	212	42	162	25	225	4	27=7397
Total 6 mos.										

WASTE ACCOUNTING SYSTEM—COMPARISON SHEET.

"A. B." KITCHEN

USABLE FOOD—LBS.

1914	Meat	Bones	Bread	Cereals	Potatoes	Veg.	Misc.	Pud.	Totals
Jan. Feb. March April May June	262	902	322	73	148	39	65	3	1814
Total 6 mos									

WASTE ACCOUNTING SYSTEM

"A. B." KITCHEN

PER CAPITA SHEET.

1914	Average Population	Usable Food Returned	Waste Not Usable	Per Capita Usable lbs.	Per Capita Waste—lbs.
Jan. Feb. March April May June	921	1814	7397	1.969	8.031
Total 6 months					

WASTE ACCOUNTING SYSTEM
SEMI-ANNUAL COMPARISON SHEET - LBS.

July 1, 1913, to December 31, 1913.

Kitchen	Usable	Waste	Per Capita Usable	Per Capita Waste	Average Population
A. B.	14401	53476	15.965	59.286	902
C. D.	15859	40933	17.182	44.347	923-
Group 1	18890	51126	12.054	32.626	1567+
Group 2	17898	26748	27.200	40.650	658+
Group 3	4685	9179	11.683	22.89	401+
Total*	71733	181462	16.116	40.769	4451(+)

*The first two columns represent total weight; third and fourth columns, "Per Capita Usable" and "Per Capita Waste" represents the average quantity per person for six months.

The fifth column "Average Population" represents the total average number of persons receiving meals.

As shown by the semi-annual comparison sheet 71,733 pounds of "Usable Food" was returned by the dining rooms to the kitchens from July 1st, 1913, to December 31st, 1913. This 71,733 pounds was made up of the following articles:—

Meat	8343	pounds
Bones	33656	"
Bread	13005	"
Cereal.....	3245	"
Potatoes	7245	"
Vegetables	2338	"
Macaroni	36	"
Miscellaneous.....	1163	"
Pudding.....	1684	"
Stew	317	"
Fish.....	701	"
Total.....	71733	"

It is fair to assume that at least ninety per cent of this would have been thrown into the garbage cans and lost if the Waste Accounting System had not been used. If ninety per cent of the above was saved through the Waste Accounting System and assuming that it would be worth at least six cents per pound, this would mean a saving of \$3,873.58 for the six months.

The Director of the Committee on Inquiry of the Board of Estimate and Apportionment of the City of New York in the report of the Committee has submitted a number of recommendations which are contained in Section nine (Food Consumption) of the Committee's Report, Pages 12, 13 and 14, among which are the following:—

1. "The dietitian shall be made responsible for determining the total amount of the various kinds of foods needed for the hospital.

2. The dietitian should requisition all food on the basis of an actual count of both patients and employees, and the amount requisitioned for any particular day should be based upon the actual count on the second day preceding the day on which such requisitions are issued.

3. A per capita allowance of each kind of food should be established for patients, officers and employees. The aggregate amount of each article of food needed for the year should be based upon the daily per capita allowance. The requisitions should adhere strictly to the established allowances *****

4. A basic dietary table, similar to that recommended on page 40 should be established, and in connection therewith, a system of separating and weighing waste similar to that described on pages 37 to 39 should be installed. The basic dietary table should be corrected from time to time, according to the findings of waste of the various articles of food.

6. A schedule of the yearly per capita proportions of food for use in general hospitals is set forth on page 42. It is recommended that this be adopted as a basis for estimating the amounts of the various kinds of food needed for the year.

8. If the above recommendations be carried out, the saving in food cost alone in ***** should not be less than \$30,000 a year, compared with the consumption of 1912."

Of another department he states: -

"If the above recommendations be carried out, the saving in meat cost alone in the hospitals of the ***** should be not less than \$13,000 per year, compared with the consumption of 1912."

In preparing this paper a number of things with reference to the Standard Basic Dietary Ration Table and Waste Accounting System have been omitted which have been published in the following publications:--

The Annual Report of the Fiscal Supervisor of State Charities, Albany, N. Y., Vol. 2, pp. 218 to 229, inclusive, for year ending October 1st, 1911.

The Journal of Home Economics, Roland Park Branch, Baltimore, Md., issue of December 1912, pp. 460 to 468 inclusive.

The Institution Quarterly, Springfield, Illinois, Vol. 4, March 31st, 1913, pp. 129 to 139 inclusive.

There are a number of ideas with reference to the administration of kitchens and dining rooms in the above papers which have been purposely omitted from this paper so as to avoid needless repetition of ideas.

In closing I would state that the tables contained in this paper are the results of nearly three years' experience with dietary ration tables and have been made up from the knowledge we have obtained through the use of five different ration tables.

Institutions are known by the manner in which they prepare and serve food the same as individuals are known by their reputations for efficiency and morality. Very frequently you will hear one employee advise another not to go to work in a certain institution as the food there is "rotten", not meaning of course that it is literally so, but meaning that it is poorly prepared and served and not necessarily of poor quality.

Each thing which we use in connection with our dining room service has a very interesting story beginning with the time when men ate with their fingers and had no table linen, knives, forks or spoons.

If our institutions are to improve and keep abreast of developments in other lines, persons carrying on the work of institutions must keep studying and working our institutional problems and keep in touch with people in other lines so as to obtain a proper perspective and bring into institutional work the best thought and experience of our contemporaries. "We are part of all we have met." Ideas to a large extent are the result of observation and conversation. We should be as willing to co operate and work out another man's idea as to work out one of our own.

Mr. Holman in an article in System (Chicago) for December, 1912, states, "Other successful merchants and manufacturers have built their business struct-

ures by picking up one idea here, one plan there, a dozen or twenty methods from other sources and then combining all into a unified, efficient whole." This method can be applied to institutional work, for nearly every institution does one or more things in an unusually efficient manner, and, therefore, to secure the best methods of conducting institutions all that is necessary to do is to collect the different ideas and select from them the best ones, arranging them in such a manner as to be available for use.

Such assemblages as this are very valuable to social workers and those having the supervision of correctional and charitable institutions, not only from the standpoint of giving enthusiasm for the work but also from the standpoint of teaching new and improved methods. The writer in *System* previously quoted expresses this thought in the following words:—

"Focus your eye on the future. Watch the men about you. Learn the specific methods which they are using. Try to adapt those methods to your own work. Keep your eye out for everything doing in the business world that will help you in your niche. That's the way to get out of your personal groove and into a bigger one. That's the way to get your business out of the groove and into the broad highway of opportunity and profit."

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